

AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [0008] with the following amended paragraph:

[0008] In one aspect, this invention comprises a disk augmentation system comprising: a first support for mounting onto a first vertebra in a spinal-cord column, a second support for mounting onto a second vertebra, the first and second supports being located exterior to a disk area between the first and second vertebrae and cooperating to define a compression body area for receiving a compression body, ~~and the first and second supports supporting the compression body exterior to the disk area~~ and permitting the first and second supports to become non-parallel during compression of the compression body, or wherein the disk augmentation system further comprises an adjustable tensioner that is adjustable after the first support is mounted to the first vertebra and the second support is mounted to the second vertebra, and wherein the compression body is generally planar.

Please replace paragraph [0009] with the following amended paragraph:

[0009] In another aspect, this invention comprises an adjustable compression system for mounting to a plurality of vertebrae: a support for mounting on the vertebrae of a spinal column, and a retainer situated exterior of the spinal column for retaining a compression body outside a native disk space and an axis of the spine, ~~the frame and compression retainer facilitating reducing loading of at least one disk in the spinal column,~~ the retainer comprising a first support for mounting to a first one of the vertebrae and a second support for mounting to a second one of the vertebrae, the first and second supports being adapted to permit the compression body to replicate or augment a function of a native or natural intervertebral disk by permitting the first support and the second support to become non-parallel relative to each other during use, and an adjustable tensioner for adjusting an amount of compression on the compression body between the first support and the second support after the first and

second supports are mounted onto the first one of the vertebrae and the second one of the vertebrae, respectively, wherein the compression body is generally planar.

Please replace paragraph [0010] with the following amended paragraph:

[0010] Still In still another aspect, this invention comprises a method for reducing load on a disk, mounting a first-mount support on a first vertebra, mounting a second-mount support on a second vertebra that is adjacent the first vertebra, the first and second mounts supports defining an area for housing a compression body ~~external to an axis of the spinal cord~~ exterior to a disk area, and situating the compression body in the posterior area, using an adjustor to adjust an amount of loading on the compression body after the first and second supports are mounted on the first and second vertebrae, respectively, the adjustor adjustably coupling the first support to the second support, and the first and second supports being adapted to become non-parallel during compression of the compression body.

Please replace paragraph [0011] with the following amended paragraph:

[0011] In yet another aspect, this invention comprises an adjustable compression system for reducing a load on at least one lumbar disk in a spinal column, the adjustable compression system comprising: a retainer for mounting on a first vertebra and a second vertebra of a spinal column, the retainer comprising a first artificial body support and a second artificial body support cooperating to define a retaining area for receiving an artificial-disk body and for supporting the artificial-disk body posterior of the first vertebra and the second vertebra, an adjuster adjusting an amount of loading on the artificial body after the first and second supports are mounted on the first and second ones, respectively, of the vertebrae; and the retainer cooperating with the artificial-disk body to facilitate reducing load on the at least one lumbar disk when the first and second vertebrae move either toward or away from each other, and permitting the first artificial body support and the second artificial body support to become non-

parallel relative to each other to replicate or augment a function of a native disk, the artificial body being generally planar.

Please replace paragraph [0014] with the following amended paragraph:

[0014] In still another aspect, this invention comprises an adjustable compression system for reducing the load on at least one lumbar disk, the adjustable compression system comprising: a retainer for retaining a first compression body posterior of the spinal column and for facilitating reducing load on at least one lumbar disk in the spinal column, and a second retainer for mounting on the spinal column also for facilitating reducing load on the at least one lumbar disk, wherein the first and second retainers are not located along an axis of the spinal column.

Please replace paragraph [0018] with the following amended paragraph:

[0018] Fig. 3 is a view illustrating means and method for mounting support rods onto anchor screws;

Please replace paragraph [0019] with the following amended paragraph:

[0019] Fig. 4 is a view illustrating a retainer mounted onto the support rods[[:]];

Please replace paragraph [0030] with the following amended paragraph:

[0030] As illustrated in Figs. 3, 4 and the exploded view in Fig. 9, the system 22 comprises a plurality of screws 24, 26, 28 and 30 comprising open heads 24a, 26a, 28a and 30a, respectively. In the embodiment being described, the open heads 24a, 26a, 28a and 30a comprise a receiving area 24a1, 26a1, 28a1 and 30a1, respectively. The areas 24a1, 26a1, 28a1 and 30a1 receive supports 32 and 42 as shown. For example, the open heads 24a and 26a receive a support or cylindrical rod 32 in the areas 24a1

and 26a1, respectively. The inner diameter of the heads 24a, 26a, 28a and 30a are threaded to threadably receive the screws 34, 36, 38 and 40 as described later herein.

Please replace paragraph [0032] with the following amended paragraph:

[0032] The system 22 further comprises at least one retainer, retainer means or retaining system 41 (Fig. 5) for mounting on the supports 32 and 42 to supportably retain at least one compression body, such as a compression disk 64, exterior of an axis of the patient's spine. The retainer 41 comprises a first support 44 and a second support 46 which are mounted onto the rods 32 and 42, respectively, with appropriate fasteners or screws 48, 50, 52 and 54, as best illustrated in Fig. 10. A third support 56 may optionally be provided as well. Notice that the system 22 comprises an adjustable fastener or fastening means in the form of an adjustable fastener, tensioner or screw 58 that is received through the apertures 56a and 44a of supports 56 and 44 and threadably received in a threaded opening 46a of support 46.

Please replace paragraph [0033] with the following amended paragraph:

[0033] Note that the support 44 comprises an aperture or recessed area 70 (Fig. 5) defined by a generally-~~accurate~~ arcuate or curved wall 72. The support 32 is received in the area 70 and the screws 48 and 50 (Fig. 9) are threadably mounted in the threaded openings 51 and 53, respectively. The ends 48a and 50a of screws 48 and 50 engage the support 32 and force it against the surface 72a (Fig. 5) in order to mount and retain the support 44 on the rod 32. Likewise, the support 46 comprises an aperture 74 defined by an-~~accurate~~ arcuate or curved wall 76 and having a surface 76a against which the support or rod 42 engages when the second support 46 is mounted thereto. In this regard and as illustrated in Figs. 4, 9 and 10, note that the screws 52 and 54 are threadably received in threaded openings (e.g. threaded screw 52 is received in opening 78 in Fig. 9) until end 52a of screw 52 engages the support 42 and forces it against the surface 76a, thereby mounting and retaining the second support 46 onto the support 42.

Please replace paragraph [0034] with the following amended paragraph:

[0034] As illustrated in Fig. 5, note that the supports 44 and 46 cooperate to define a first compression body area 60, and supports 44 and 56 cooperate to define a second compression body area 62. The first and second ~~compressing~~ compression body areas 60 and 62 receive at least one compression body, such as compression bodies or disks 64 and 66, respectively. In the embodiment being described, the compression body is a compressible material such as polyethylene, silicone, or viscoelastic polymer that comprises a mechanical density on the order of the native intervertebral disk. The compression bodies 64 and 66 may comprise any suitable cross-sectional and overall shape, such as one or more of the polygonal shapes illustrated in Fig. 8 or any oval, elliptical, circular or any other suitable or desired shape to provide the desired compression characteristics necessary to facilitate relieving or reducing load on at least one of the disks 12 or 18 (Fig. 1).

Please replace paragraph [0036] with the following amended paragraph:

[0036] As illustrated in Fig. 5, the first and second supports 44 and 46 comprise portions 44b and 46b that lie in imaginary planes P1 and P2 (Fig. 4) that are generally parallel and are situated at an angle θ relative to the ~~spine~~ spinal axis when the system 22 is assembled and mounted into position illustrated in Fig. 4. Thus, the compression bodies 64 and 66 lie in one or more planes, such as planes P1 and P2, as illustrated in Fig. 4. In the embodiments being described, the angle θ is a predetermined angle of approximately 30 degrees or less. The angle generally corresponds to the angle between the long axis of the spine and the facet joints and/or spinous processes. Note that after the supports 44, 46 and 56 are mounted as shown, the compression bodies 64 and 66 are situated exterior to the spinal axis and spinal ~~cord~~ column, as illustrated in Fig. 4. In the embodiment being described, the planes P1 and P2 mentioned earlier are generally parallel to the facet joint and inter-spinous process articulations.

Please replace paragraph [0037] with the following amended paragraph:

[0037] In the embodiment being described, the at least one adjustable fastener 58 is adjustable to permit loading at least one of the compression bodies 64 and 66 with a predetermined amount of pressure. In the embodiment being described, the predetermined amount of pressure is about 10-300 pounds. The predetermined amount of pressure may vary depending on the desired compliance and constraining properties of the device.

Please replace paragraph [0038] with the following amended paragraph:

[0038] Note the supports 44, 46 and 56 each comprise a compression body support surface which in the embodiment being described is a planar portion 44b, 46b and 56b. Each of the generally planar portions 44b, 46b and 56b are arranged to define opposing surfaces 44b1 and 44b2, 46b1 and 46b2, and 56b1 and 56b2, respectively. Each surface cooperates with an opposing surface from an adjacent support to define the compression body receiving areas, such as the areas 60 and 62 (Fig. 5), mentioned earlier herein. For example, note that the support 44 in Fig. 5 comprises the surfaces 44b1 and 44b2. The surface ~~44b1~~ 44b2 of support 44 cooperates with surface 56b1 of planar portion 56b to define the compression body receiving area 62. Likewise, the surface ~~44b2~~ 44b1 of support 44 cooperates with surface 46b1 to define the compression body receiving area 60. The surfaces 44b1, 44b2, 46b1, 46b2, 56b1 and 56b2 may define a substantially continuous or flat surface for supporting all or a portion of the compression bodies 64 and 66, which as mentioned earlier, may be provided in any suitable shape. Alternatively, these surfaces may be non-planar. For example, the surfaces may be concave or define a recessed area (not shown) that generally corresponds to the shape of the compression body to facilitate retaining the compression body in place. In this regard, note that the compression bodies have an aperture, such as aperture 66a in body 66, that receives the adjustable fastener 58 to facilitate retaining the body in place.

Please replace paragraph [0039] with the following amended paragraph:

[0039] Advantageously, the system and method of the present invention provide means for situating one or more artificial compression bodies exterior to the ~~spinal-cord~~ column and exterior to the disk areas in which the patient's disks, such as disks 12 and 18, are situated.

Please replace paragraph [0041] with the following amended paragraph:

[0041] As illustrated in the exploded view in Fig. 9, the compression bodies, such as compression bodies 64 and 66 shown in Fig. 9, may be generally rectangular to match or generally correspond to or complement the shape and size of the planar surfaces 44b1, 44b2, 46b1 and 56b2. Alternatively, different shapes and sizes, such as circular, triangular, polygonal, elliptical shaped disks may be provided. It should also be appreciated that the supports 44, 46 and 56 may be provided to define surface areas that are different from the shape of the portions 44b, 46b and 56b illustrated in Fig. 9. For example, the portions 44b, 46b and 56b could be triangular, polygonal, rectangular, elliptical or circular to define the portions 44b, 46b and 56b. In the embodiment being described, typical dimensions for the compressive body are 1-2 square inches by 0.5 to one inch. In the embodiment being described, the ~~compression-body~~ bodies 64, 66 and 81-91 may comprise predetermined densities on the order of the native intervertebral disk disks, which are selected based on the patient's needs.

Please replace paragraph [0042] with the following amended paragraph:

[0042] During a surgical procedure, a portion 16a (Fig. 1) of vertebra 16 is removed by conventional means. Screws 24, 26, 28 and 30 are mounted into the vertebrae, such as as vertebrae 16 and 20 in the illustration shown in Fig. 4. The supports 32 and 42 are then mounted on the screws 24-30 as shown and as described earlier. The retainer 41 comprising the first and second supports 44 and 46 are then mounted on the support rods 32 and 42, respectively. The disks 64 and 66 are sandwiched between the supports 44, 46 and 56 as shown and the adjustable tensioner 58 is mounted through

the disks 64, 66 and supports 44 and 56 and threaded into threaded aperture 46a as illustrated in Figs. 4 and 9.

Please replace paragraph [0043] with the following amended paragraph:

[0043] As illustrated in Figs. 4 and 10, if the vertebrae 16 and 20 move away from each other (as viewed in Fig. 4), then the support 44 moves in the direction of arrow A in Fig. 4 while supports 46 and ~~and~~ 56 move in the direction of arrow B in Fig. 4. The movement of support 46 causes the support 56 to also move downward (as viewed in the Figure) in the direction of arrow B as the support 44 moves in the direction of arrow A. This, in turn, causes compressing of the compression disk 66, which facilitates reducing stress.

Please replace paragraph [0044] with the following amended paragraph:

[0044] When the ~~disks~~ vertebrae 16 and 20 move toward each other, the support 44 moves downward in the direction of arrow B, while the supports 46 and 56 move in the direction of arrow A. The disk 64 compresses in response thereto, thereby facilitating reducing the compressive load on the patient's disk 18. The system and method are operable when a vertebra moves independently or when they move simultaneously with another vertebra to facilitate reducing loading on one or more disks, such as disk 18.

Please replace paragraph [0045] with the following amended paragraph:

[0045] As alluded to earlier, the adjustable fastener 58 is adjustable so that a surgeon may preload or load one or more of the compression ~~body~~ bodies 62 and 64 with a predetermined amount of pressure by simply rotating the fastener 58 in a clockwise direction. This may be desirable in order to decrease the freedom of movement of the device and decrease the compliance of the compression body based on the patient's needs.

Please replace paragraph [0049] with the following amended paragraph:

[0049] After the screws 24' – 30' are mounted to the vertebrae, such as vertebrae 16 and 20, respectively, the supports 102' and 104' of retainer 100' are secured thereto with the screws 34' – 40'. The compression bodies-~~66~~ 66' are then placed between surfaces 102a1' and 104a1' as shown and screw 58' is threaded through opening 107' (Fig. 13) and then threaded into the threaded aperture-~~108'~~ 109' to retain the compression body 66 between the supports 102' and 104'.

Please replace paragraph [0050] with the following amended paragraph:

[0050] Advantageously, this embodiment of the invention utilizes the same or similar features as the embodiment illustrated in Figs. 1 – 10 to facilitate reducing load on one or more disks in the spine or spinal column.

Please replace paragraph [0054] with the following amended paragraph:

[0054] While the system and method described herein constitute preferred embodiments of this invention, it is to be understood that the invention is not limited to this precise system and method, and that changes may be made in either without departing from the scope of the ~~inventions~~ invention, which is defined in the appended claims.